Physics 121 Tutorials

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"The whole of science is nothing more than a refinement of everyday thinking."

- Einstein, 1936.

Many students think learning physics means taking in information — facts and formulas and problem solving methods — and committing it all to memory. But, for Einstein and others, learning physics means refining your everyday thinking. And that means, first, becoming aware of your everyday thinking. They may not always think of what they're doing this way, but students who succeed in physics know this instinctively: Learning physics is as much learning about yourself, about how and what you know and see and think, as it is finding out new things about the physical world. This is going to be our primary focus in tutorials, learning how to learn physics.

This course concerns mainly the physics of motion with bits and pieces of other topics. That's something you already know an awful lot about, and what you already know will be the raw material from which you'll build your understanding in the tutorials. Much of it already works perfectly; we'll only need to make it precise, write it down, and follow its implications. And much of it works well in some circumstances but not in others. Sometimes what you "know" in one context just contradicts what you "know" in another, and when that happens you need do some adjusting to reconcile the inconsistency.

Tutorial attendance policy

Participation in the tutorials is an important part of the course. There are homework and exam questions based on the tutorial material, some of which may not be covered in other parts of the course.

Tutorials are not mandatory. Because of the critical importance of your participation to both your own learning and to the learning of your group, I expect

you to attend regularly. To encourage your regular presence attendance will be taken each day.

Those who must miss tutorial and lab due to religious holidays may attend another section during the same week with no penalty. Notify your TA.

Tutorial Homework

There will be homework every week based on that week's tutorial that you would need to turn in for grading at the following week's tutorial. The grades from tutorial homework would contribute to your final grade for the course. There might be slight variations in the grading method for tutorial homework depending on your primary instructor (Redish/Hamilton/Liu). So please follow the individual instructions received in class. We will try to post these instructions on the website, but YOU are responsible for making sure that you have the right instructions every week. In case of confusion, contact me (Ayush) or your lecture instructor at the earliest.

Physics 121 Tutorials, Fall 2008,

Mon, Tue, Wed & Thu

Instructor: Dr. Ayush Gupta ayush@umd.edu, x5-6184;

Wk	Dates	Expt	Experiment
1	09/02/09/05	None	1st Week of Classes –No Tutorials
2	09/08-09/12	1	Meaning of Speed
3	09/15-09/19	2	Acceleration
4	09/22-09/26	3	Newton's Second Law
5	09/29-01/03	4	Newton's Third Law
6	10/06-10/10	5	Free Body Diagrams
7	10/13-10/17	6	Momentum
8	10/20-10/24	7	Work/Energy
9	10/27-10/31	8	Torque
10	11/03-11/07	9	Properties of Matter
11	11/10-11/14	10	Pressure
12	11/17-11/21	11	Ideal Gases
13	11/24-11/28	None	Thanksgiving Week
14	12/01-12/05	12	Heat
15	12/08-12/12	- -	Survey